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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/658,770	09/10/2003	Changhwe Choi	2557-000108/US	3911
30593 7590 09/24/2007 HARNES, DICKEY & PIERCE, P.L.C. P.O. BOX 8910 RESTON, VA 20195			EXAMINER FATAHI YAR, MAHMOUD	
			ART UNIT 2629	PAPER NUMBER
			MAIL DATE 09/24/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.		Applicant(s)	
	10/658,770		CHOI ET AL	
	Examiner		Art Unit	
	Mike Fatahiyar		2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 June 2007.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5-7, 19-21, 26 and 27 is/are allowed.
- 6) ☒ Claim(s) 1, 2, 8-16, 22-25 and 28-32 is/are rejected.
- 7) ☒ Claim(s) 3-4 and 17-18 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-2, 8-16, 22-25 and 28-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jeong et al(6,717,468B1) in view of Ivanov et al(6,359,512B1).

Jeong et al disclose a high slew rate amplifying circuit for a TFT-type of LCD system comprising an LCD panel(100), a plurality of source drivers(130) connected to the panel, each of the source drivers including an output buffer; each output buffer including an operational amplifier(see figure 4), a pull-up transistor(MO12), a pull-down transistor(MO11), a control circuit(MO4, MO7), a capacitor(460), a high-part amplifying sub-circuit(MO1, MO2, MO3, MO5), a low-part amplifying sub-circuit(MO6, MO8, MO9, MO10) wherein the low part and the high part amplifying circuits have voltage follower configuration including a plurality of transistors which all function as claimed. Jeong et al substantially show all the features of the above claims except for the "pull-up transistor and the pull-down transistor connected to an output of the operational amplifier" and "a control circuit to selectively actuate the pull-up transistor and the pull-down transistor". However, Ivanov et al is cited to show that the concept of selectively controlling(11) a push-pull transistor(M11, M12) connected to an output of an operational amplifier for providing a high slew rate signal transition is old(see figure 1-6). Thus, it would have been obvious to one of ordinary skill in the art to modify the system Jeong et al with the

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above noted teachings of Ivanov et al such that to provide a push-pull transistor which is selectively controlled by a control circuit connected to an output of the operational amplifier circuit of Jeong et al because both references are related to a high slew rate amplifying circuit.

In claims 2, 16, 25 and 30-32, as to the limitation "for one of the following: less than about $\frac{1}{2}$ of the period of a polarity signal; or less than period of an output enable signal", such is also the case in the high slew rate amplifying circuit of Ivanov et al because the push-pull transistors(21-22) are selectively controlled.

3. Claim 5-7, 19-21 and 26-27 are allowed.
4. Claims 3-4 and 17-18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
5. Applicant's arguments with respect to claims 1-2, 8-16, 22-25 and 28-32 have been considered but are moot in view of the new ground(s) of rejection.
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mike Fatahiyar whose telephone number is (571)272-7688. The examiner can normally be reached on Monday-Friday from 9:30 to 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Hjerpe, can be reached on 571-272-7691. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


AMARE MENGISTU
SUPERVISORY PATENT EXAMINER


M. Fatahiyar

September 16, 2007